

**ABSTRACT**

According to certain embodiments of the present invention, there is provided a magnetoencephalography and method employing a portable cart having a SQUID dewar mounted in an inverted manner thereon, and having a headrest assembly mounted on the cart for supporting the head of a patient and forming a portion of the dewar. The headrest assembly includes an array of magnetic sensors of the SQUID dewar for responding to electrical activity of the brain of the head.